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March 4, 2013

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Mike Monasmith
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California Energy Commission
1516 Ninth Street, MS-15
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Subject: Data Response, Set 1B-6, Quarter 4
Hidden Hills Solar Electric Generating System (11-AFC-2)

Dear Mr. Monasmith:

On behalf of Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC, please find attached electronic copies of Data Response, Set 1B-6, Quarter 4.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

Encl.

c: POS List
Project file

Data Response Set 1B-6, Quarter 4

Hidden Hills

Solar Electric Generating System

(11-AFC-2)

Application for Certification

Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC

March 2013

With Technical Assistance from

CH2MHILL®

IS061411043744SAC

Hidden Hills Solar Electric Generating System (HHSEGS)

(11-AFC-2)

Data Response, Set 1B-6, Quarter 4 (Response to Data Request 56)

Submitted to the

California Energy Commission

Submitted by

Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC

March 4, 2013

With Assistance from

CH2MHILL

2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

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Introduction

Attached is Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC (collectively, "Applicant") additional response to the California Energy Commission ("CEC") Staff's Data Request 56 for the Hidden Hills Solar Electric Generating System Project ("HHSEGS" or "Project") (11-AFC-2). The CEC Staff served these data requests on November 4, 2011. This report summarizes the fourth quarter of AnaBat™ monitoring results.

Biological Resources (56)

EFFECTS OF POWER TOWERS ON BAT AND BIRD SPECIES

BACKGROUND: In the AFC and two supplements, the applicant addresses the potential for occurrence and project impacts to four bat species, two of which are BLM Sensitive and California Species of Concern, the pallid bat and Townsend's big-eared bat. The applicant identifies the site as supporting potentially suitable night-time foraging habitat for these species, but indicates the likelihood for use of the site for foraging is low due to distance of the project site from roost site occurrences being greater than their known foraging distances. The applicant states that bats or their sign were not observed during field surveys and the site does not provide suitable bat roost habitat, but does not describe the types of bat surveys conducted or how the determination was made that roost habitat does not occur on the project site.

The applicant relied primarily on CDFG's California Natural Diversity Database (CNDDB) occurrence information although that bat occurrence information may not be very complete since bat survey information is not commonly reported to the CNDDB. Four other special-status bat species identified as occurring within the Northern Eastern Mojave (NEMO) plan area were not addressed by the applicant as potentially occurring and include the occult little brown bat, western mastiff bat, spotted bat, and California leaf-nosed bat which are also identified as California Species of Concern.

Staff needs to analyze the potential for project impacts to roosting and foraging habitat of special-status bats. The applicant has indicated due to lack of roost habitat and low likelihood to forage onsite, impacts are expected to be less than significant and no mitigation would be necessary for special-status bat species. Based on a reconnaissance-level site visit performed by staff in March 2011 and review of aerial photography, staff believes the orchard trees and abandoned home structures located along the southern portion of the project may provide potential bat roost habitat. Based on a conference call between staff and other resource agencies on October 20, 2011, BLM field staff recommends two years of acoustic collection data to provide baseline data for projects on bat species occurrence and habitat use within the project area. Staff believes the site and surrounding area may provide bat roost and foraging habitat and a more in-depth field surveys and data are needed to determine an environmental baseline for determining the project's potential for impacts to special-status bats. While 2 years of data are requested, this will not impact the timeline of the staff's assessment documents. As mentioned previously, the USFWS Regional Migratory Bird Program has indicated there is concern about the effects of large power tower projects to birds, bats, and eagles due to the potential for direct take from the super-heated air surrounding the tower and indirect take due to loss of foraging habitat. The USFWS Region 8 has issued interim guidelines[1] on the development of Avian and Bat Protection Plans and indicate "…of concern are the cumulative effects of renewable energy projects in initiating or contributing to the decline of some bird and bat populations, as well as other affected species."

[1] USFWS, Region 8, Interim Guidelines for the Development of a Project-specific Avian and Bat Protection Plan for Solar Energy Plants and Related Transmission Facilities (USFWS Region 8 September 2010).

The applicant claims that since the power plant would operate during the day, the potential for impacts to bat species foraging at night over the site is low. Staff needs to analyze the potential for direct and indirect impacts to special-status bats (and migratory bird species) from the project's two 750-foot tall power towers and the heat that will be emitted from the towers; however, the applicant has not provided temperature data expected to be emitted by the towers and over the mirror field.

DATA REQUESTS

56. Please conduct one year of acoustic bat surveys within the site beginning in November 2011. Please coordinate with the resource agencies on the appropriate placement of acoustic unit(s) within the site; report quarterly findings to staff and copy the BLM, CDFG, and UFWS with the information. Once quarterly results of the first year's acoustic survey data becomes available, staff may subsequently request additional seasonal data.

Response: This quarterly report supplements responses to Data Request 55 previously submitted by Applicant on March 5, 2012, the 2012 First Quarter AnaBat™ monitoring results submitted April 17, 2012, the Second Quarter AnaBat™ monitoring results submitted August 3, 2012, and the Third Quarter AnaBat™ monitoring results submitted October 25, 2012. This report provides results for the period of October 4, 2012 to December 31, 2012 ("reporting period"). This report concludes bat acoustic surveys at the HHSEGS site. The total level of bat activity in this reporting period, and all reporting periods during the 1-year study, is very low in comparison to bat activity levels near features attractive to bats (see Table DR56-2 and Figure DR56-3), which have activity levels that exceed those at HHSEGS by orders of magnitude (O'Farrell, 2012). Data collected for bat activity at HHSEGS indicate very low use in Quarter 4 (October, November and December).

Methods

Baseline bat activity in HHSEGS was collected through remote passive monitoring using an AnaBat™ SD1 or SD2 stationary bat detector. Baseline data collection began on December 21, 2011 and ended on December 31, 2012. One monitoring station containing a microphone and "bat hat" were posted on the existing HHSEGS meteorological tower at approximately 8 meters (26 feet) above ground. The AnaBat™ unit and associated equipment was protected by a waterproof case. Initially, data was collected on a compact flash memory card. However, on January 24, 2012, a remote download system was installed and confirmed as operational. Data gathered on the compact flash memory card and by the remote download system were accessed by a bat specialist.

A corrosion problem in the backup battery compartment of the SD2 unit was discovered September 26, 2012, which resulted in the unit being down for 7 days at the end of September (from September 26 through October 3, 2012). In response to the system failure, the Anabat™ unit was replaced on October 4, 2012 with a SD-1 unit. At this time, use of the remote download system was discontinued due to the consistent presence of a qualified biologist onsite for avian surveys who manually transferred data by switching compact flash memory cards every 2 weeks for analysis until the end of 2012.

Mammalogist Michael O'Farrell, Ph.D., of O'Farrell Biological Consulting, analyzed the AnaBat™ data in 1-minute increments to determine presence or absence of bat species. The mammalogist identified bat species calls based on frequency characteristics, call shape, and comparison with a library of vocal signatures. AnaBat™ detectors recorded bat echolocation

calls with a broadband microphone. The echolocation sounds were translated into frequencies audible to humans by dividing the frequencies by a predetermined ratio. Bat echolocation detectors also detected other ultrasonic sounds, such as those sounds made by insects, raindrops hitting vegetation, and other sources. Analysis of the data files distinguished between files of ambient sounds and bat sounds. The detection range of AnaBat™ detectors depends on a number of factors (for example, echolocation call characteristics, microphone sensitivity, habitat structure, orientation of the bat, and atmospheric conditions) (Limpens and McCracken, 2004). Many bats are easily detected over 30 meters (98 feet) under typical conditions, while some species that call at low frequencies may be detectable from as far as 100 meters (328 feet) (Titley Scientific, 2011). Some bats have louder calls and are more easily recorded. The number of bats cannot be determined because individual bats cannot be differentiated by their calls. Also, simultaneous bat calls may be recorded as a single pass.

Identification of species in this study used the methods of O'Farrell et al. (1999), which is based on frequency characteristics, call shape, and comparison with a comprehensive library of vocal signatures developed by O'Farrell and colleagues. Thus, species richness (number of species verified as present) was obtained for each location. A key feature of the AnaBat™ system is that each file saved to the computer is named with a time date code (e.g., B8012024.16#, where B = 2012, 8 = August, 01 = day of the month, 2024.16 = 8:24:16 PM), which allows for the determination of number of minutes of activity.

Data analysis uses an Index of Activity (IA) because bat use is not measured directly by AnaBat™ devices for the reasons described above. The IA is calculated to compare relative levels of activity. An IA, or the magnitude of each species contribution to spatial use, was obtained using the sum of 1-minute time increments for which a species was detected as present divided by the number of nights of sampling (Miller, 2001). The IA was multiplied by a factor of 100 in order to scale the smallest index values up to whole numbers. The IA is rounded off to the nearest whole number for ease in interpreting the tables. Therefore, totals may not add up exactly but the magnitude of differences between species and/or stations is reflected accurately. It is defined for this report as the number of minutes of bat activity (M) divided by the number of detectors (D) and the number of nights of data collection (N) multiplied by 100 (IA = M/D/N x 100). The quotient is multiplied by 100 to standardize data collected over periods of different lengths. Consequently, minutes of bat activity represent duration of bat activity rather than the numbers of individuals present.

Results

During the fourth quarter reporting period (76 data collection nights), a total of 1,063 files were collected, of which 38 files were identified as containing bat activity. The 38 files represent a total of 37 minutes of recorded bat activity for the reporting period.

During the entire 1-year sampling effort (352 data collection nights), a total of 11,900 files were collected, of which 2,052 files were identified as containing bat activity. These 2,052 files represent a total of 1,837 minutes of recorded bat activity for the 1-year reporting period.

The calls were analyzed by mammalogist, Dr. Michael O'Farrell, who identified nine species of bat. Data for the entire sampling effort are summarized in Table DR56-1.

TABLE DR56-1
AnaBat™ Acoustic Data in Minutes of Activity Recorded between December 21, 2011 and December 31, 2012 and Calculated Indices of Activity (IA).

Nights of Survey		**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
		7	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**25**	**28**	**17**	**31**	**352**
Minutes of Activity Recorded															
Scientific Name	**Common Name**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Pallid Bat[1,2]	*Antrozous pallidus*	0	0	0	1	1	0	0	2	0	10	0	0	0	14
Big Brown Bat	*Eptesicus fuscus*	0	0	3	1	0	0	2	13	2	0	0	0	0	21
Western Red Bat	*Lasiurus blossevillii*	0	0	0	0	0	0	0	0	3	1	0	0	0	4
Hoary Bat	*Lasiurus cinereus*	0	0	0	0	7	2	0	0	10	13	9	6	0	47
California Myotis	*Myotis californicus*	0	0	1	9	4	16	47	35	13	93	0	0	0	216
Western Small-footed Myotis[2]	*Myotis ciliolabrum*	0	0	0	0	1	4	0	0	0	1	0	0	0	5
Yuma Myotis[2]	*Myotis yumanensis*	0	0	0	0	4	19	16	2	9	40	0	0	0	88
Parastrelle[6]	*Parastrellus hesperus*	0	0	1	8	38	44	114	535	317	152	6	2	0	1215
Mexican Free-tailed Bat[1]	*Tadarida brasiliensis*	0	0	3	19	8	6	5	75	64	33	7	7	0	227
All Species Combined[4]		0	0	8	38	63	84	184	662	418	343	22	15	0	1837
Indices of Activity (IA)[3]		**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**All[5]**

TABLE DR56-1
AnaBat™ Acoustic Data in Minutes of Activity Recorded between December 21, 2011 and December 31, 2012 and Calculated Indices of Activity (IA).

Nights of Survey		**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
		7	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**25**	**28**	**17**	**31**	**352**
Minutes of Activity Recorded															
Scientific Name	**Common Name**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Pallid Bat[1,2]	*Antrozous pallidus*	0	0	0	3	3	0	0	6	0	40	0	0	0	4
Big Brown Bat	*Eptesicus fuscus*	0	0	10	3	0	0	7	42	6	0	0	0	0	6
Western Red Bat	*Lasiurus blossevillii*	0	0	0	0	0	0	0	0	10	4	0	0	0	1
Hoary Bat	*Lasiurus cinereus*	0	0	0	0	23	6	0	0	32	52	32	35	0	13
California Myotis	*Myotis californicus*	0	0	3	29	13	45	157	113	42	372	0	0	0	61
Western Small-footed Myotis[2]	*Myotis ciliolabrum*	0	0	0	0	3	10	0	0	0	4	0	0	0	1
Yuma Myotis[2]	*Myotis yumanensis*	0	0	0	0	13	55	53	6	29	160	0	0	0	25
Parastrelle	*Parastrellus hesperus*	0	0	3	26	127	135	380	1,726	1,023	608	21	12	0	345
Mexican Free-tailed Bat	Tadarida brasiliensis	0	0	10	61	27	19	17	242	206	132	25	41	0	64
All Species Combined[4]		0	0	28	123	210	271	613	2,135	1,348	1,372	79	88	0	522

[1] CSC = California Department of Fish and Game “Species of Special Concern.” This is an administrative designation and carries no formal legal status.

[2] BLM SS = BLM Sensitive Species

TABLE DR56-1
AnaBat™ Acoustic Data in Minutes of Activity Recorded between December 21, 2011 and December 31, 2012 and Calculated Indices of Activity (IA).

Nights of Survey		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
		7	31	29	31	30	31	30	31	31	25	28	17	31	352
Minutes of Activity Recorded															
Scientific Name	**Common Name**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**

[3] IA is the Index of Activity (number of minutes of bat activity/number of nights of data collection x 100), which allows a valid comparison of activity across periods of unequal length and/or collection sites.

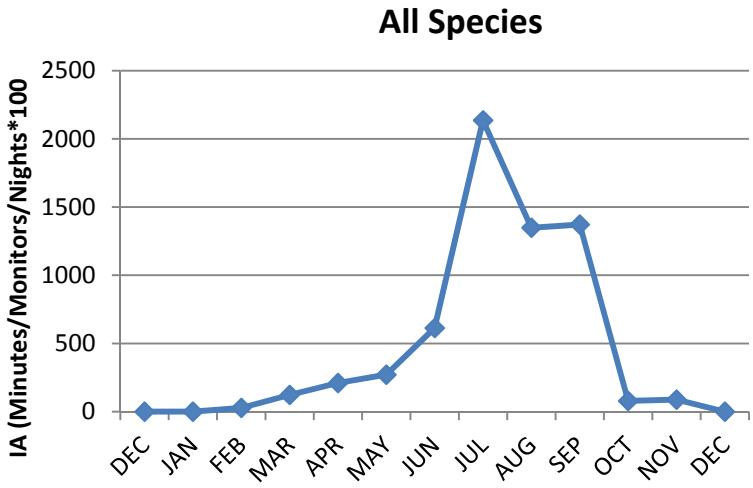
[4] The combined IA is calculated directly from data and is not the sum of species-specific indices. Example from All Species Combined for All Nights: 1,800 minutes/276 recording nights x 100 = 521.88, rounded to 522.

[5] The IAs in this column are cumulative for the entire sampling period, December 2011 through December 2012. Pallid bat, for example is calculated (1+1+2+10)/1 recorder/352 nights*100 = (3.98) ≈ 4 (rounded).

[6] Formerly western pipistrelle

The monthly combined (i.e., cumulative) bat IA increased from 0 in December 2011 and January to 2,135 in July (Figure DR56-1) and decreased again to 0 by December 2012. The IA for all species combined for the duration of the monitoring effort to date was 522.

FIGURE DR56-1.
Bat Index of Activity Combined for All Species of Bat for Each Month



As bat activity increased approaching the spring season, the IA of each species diverged from the others. The most frequently recorded species in the first quarter was the Mexican free-tailed bat (*Tadarida brasiliensis*) and the least frequently recorded species was the pallid bat (*Antrozous pallidus)* (see Table DR56-1).

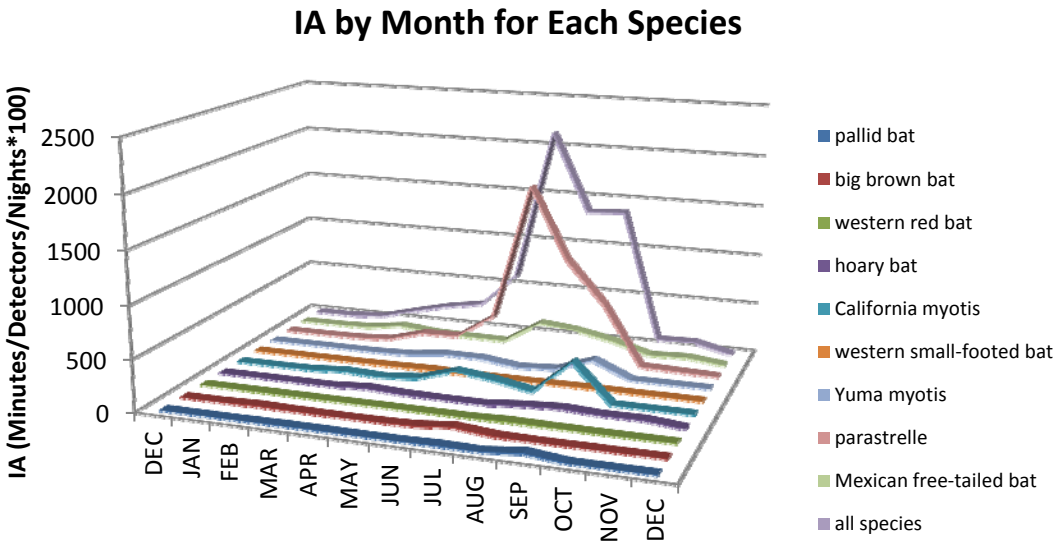
All species recorded in the first quarter were also recorded in the second quarter. However, three species were detected in the second quarter, which were not recorded in the first quarter. They were hoary bat (*Lasiurus cinereus*), western small-footed myotis (*Myotis ciliolabrum*) and Yuma myotis (*Myotis yumanensis*). The IA of some species peaked over the two quarters, and decreased toward the end of the second quarter. They were pallid bat, big brown bat (*Eptesicus fuscus*), hoary bat, Mexican free-tailed bat and western small-footed myotis. Species that had an increasing trend through the second quarter were California myotis (*Myotis californicus*), Yuma myotis and parastrelle (*Parastrellus hesperus*). Over the three quarters, the least recorded species was western red bat and the most recorded species was parastrelle (see Table DR56-1).

All of the bat species recorded in the second quarter were also recorded in the third quarter. One additional species was detected in the third quarter—the western red bat (*Lasiurus blossevillii*). The typical habitat of this species does not include desert areas (Harris, 1988; Pierson et al., 2006). The IA for this species was very low. The species with the greatest IA in the third quarter was parastrelle. It spiked in July and tapered off in August and September. Mexican free-tailed bat showed the same pattern but at a smaller scale. Other species with greater IAs were California myotis and Mexican free-tailed bat. The species with the least IA was western small-footed myotis. The other species with low IAs were: western small-footed myotis, western red bat, pallid bat, big brown bat, hoary bat, and Yuma myotis.

Only three bat species were recorded during the fourth quarter: hoary bat, parastrelle, and Mexican free-tailed bat. All three species were recorded earlier in the study. The IA for these three species was very low during the fourth quarter (Table DR56-1 and Figure DR56-2).

During the 1-year survey effort, IA was highest for parastrelle (345), followed by Mexican free-tailed bat (64), and California myotis (61). Species with the lowest IA were western small-footed myotis (1), western red bat (1), and pallid bat (4). The IA for hoary bat was 13 over the study period.

FIGURE DR56-2.
Index of Activity by Month for Each Species



Discussion

The IA does not reflect the number of bats present for a number of reasons. A single bat can make multiple passes. Some species are louder and more easily recorded. Simultaneous calls may be recorded. Consequently, the data is an index for comparison only. Data from other studies is presented for comparison in Table DR56-2.

The increased IA values beginning in February probably reflect a seasonal increasing trend in activity level as bats leave hibernacula. The species recorded in the first quarter do not migrate over long distances.

Pallid bats and big brown bats do not appear to migrate far as the seasons change. They break into smaller groups and hibernate deep in canyon wall crevices, in buildings, or deep in caves where the temperature is less variable (Harris, 1988). California myotis may be active at any time of year, although activity is greatly reduced in winter when most individuals hibernate, emerging on warm days to forage (Harris, 1988). Parastrelle does not migrate or hibernate but is much less active in winter months (Harris, 1988). Mexican free-tailed bat in California makes local movements to and from hibernacula or short migrations between altitudes in the winter (Harris, 1988).

Bat species recorded for the first time in the second quarter (hoary bat, western small-footed myotis and Yuma myotis) migrate after hibernation. Hoary bat migrates seasonally

(Cryan, 2003; Shump and Shump, 1982), which explains the peak in recordings. Western small-footed myotis is active well into autumn and emerges as early as March (Jones et al., 1983). It is thought that Yuma myotis hibernates and makes short migrations to hibernacula, many migrating to higher elevations for the summer. The Yuma myotis may be found feeding and roosting with other bat species, such as Mexican free-tailed bat and pallid bat (Harris, 1988).

The third quarter activity data shows an increase in the activity of parastrelle. Young of this resident species generally become volant in July. It is the most abundant bat in desert regions. It is common in arid brushlands, grasslands, and woodlands, and uncommon in conifer forests (Harris, 1988). The activity of other species remained very low in the third quarter.

The low level of activity recorded during the fourth quarter, and complete lack of activity recorded in December, likely represented a few late fall migrants (i.e., hoary bats) combined with low levels of local and resident bat activity. These results are consistent with activity recorded during the first quarter of the study.

The activity levels recorded at the Hidden Hills SEGS site are consistent with occasional use by one to a few individuals of each species (O'Farrell, 2012). Comparisons with IAs from other studies demonstrate that sites with features attractive to bats have much higher activity levels. Sites associated with water support attractive populations of insects. These include: Ash Meadows National Wildlife Refuge (NWR), Halfway Wash, Las Vegas Wash, and the Overton Wildlife Area (see Table DR56-2 and Figure DR56-3).

TABLE DR56-2
A summary of Index of Activity (IA) for the entire period of study (Total), from acoustic studies that have been conducted at low to medium elevations in Arizona and Nevada compared with the study at the Hidden Hills SEGS site.

Location	Total IA	LASBLO[a]	LASCIN[b]	TADBRA[c] Mexican Free-tailed Bat[c]
Table Mountain[1]	75-345	0	1-11	1-83
Virgin River[2]	46,583	311	17	6,792
Halfway Wash[2]	17,420	44	0	1,986
Overton Wildlife Area[2]	254,487	29	128	63,456
LV Wash Downstream 2004[3]	101,614	123	1,069	26,872
LV Wash Downstream 2005[3]	76,134	13	296	32,065
LV Wash Midstream 2004[3]	66,127	23	13	5,620
LV Wash Midstream 2005[3]	28,594	240	9,852	4,353
LV Wash Upstream 2004[3]	168,428	58	900	60,779
LV Wash Upstream 2005[3]	95,305	85	258	43,706
Ash Meadows NWR 2007[4]	11,416	19	314	549
Ash Meadows NWR 2008[4]	10,404	30	37	788
Searchlight High 2008-2009[5]	117-190	0	3	83-175
Searchlight High 2009-2010[5]	100-140	0-0.3	1-2	76-102
Searchlight Low 2008-2009[5]	118-802	0	0.3-8	41-342

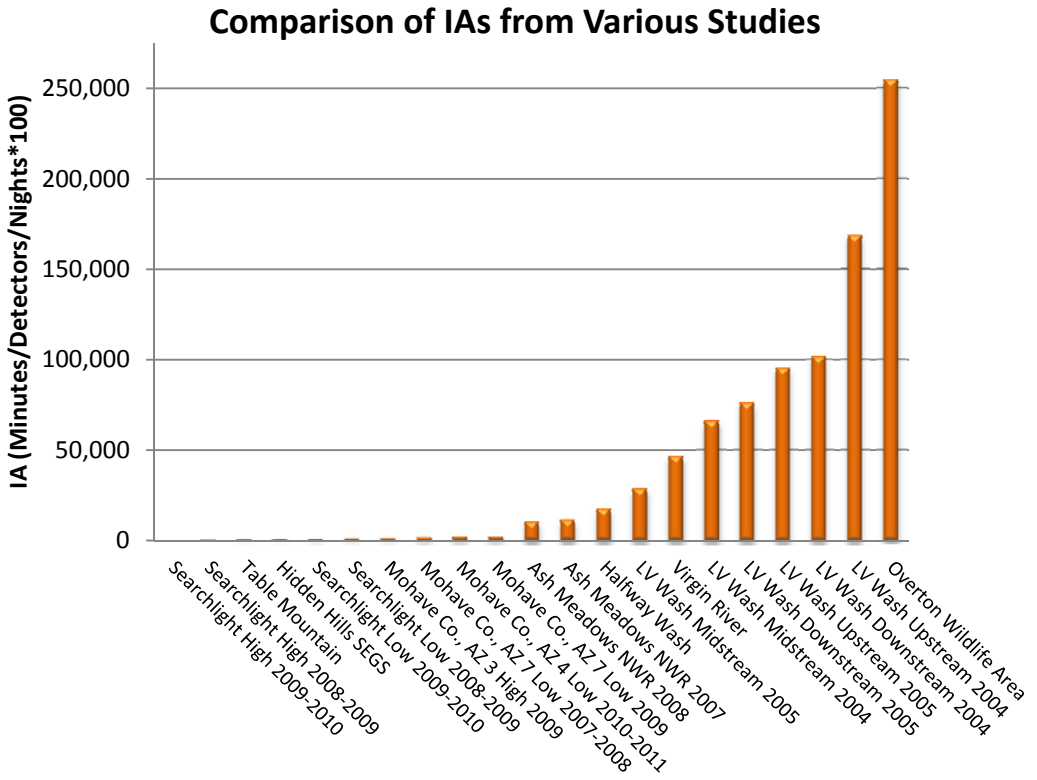
TABLE DR56-2
A summary of Index of Activity (IA) for the entire period of study (Total), from acoustic studies that have been conducted at low to medium elevations in Arizona and Nevada compared with the study at the Hidden Hills SEGS site.

Location	Total IA	LASBLO[a]	LASCIN[b]	TADBRA[c] Mexican Free-tailed Bat[c]
Searchlight Low 2009-2010[5]	259-687	0-0.3	0.3-2	53-176
Mohave Co., AZ[6] 7 Low 2007-2008	196-1,569	0	1-5	89-377
Mohave Co., AZ[6] 3 High 2009	675-871	0	5-12	527-859
Mohave Co., AZ[6] 7 Low 2009	727-1,995	1-2	1-14	664-1,743
Mohave Co., AZ[6] 4 Low 2010-2011	664-1,946	0	10-34	649-1,625

Notes:
[a] western red bat (*Lasiurus blossevillii*, LASBLO),
[b] hoary bat, (*L. cinereus*, LASCIN)
[c] Mexican free-tailed bat (*Tadarida brasiliensis*; TADBRA)

Sources:
[1] O'Farrell (2007); values are the range for 8 MET towers
[2] O'Farrell (2006b)
[3] O'Farrell (2006a)
[4] O'Farrell (2009)
[5] O'Farrell (2010) values are the range for 3 high and 6 low units
[6] O'Farrell (2012) ranges for values stated

FIGURE DR56-3.
Comparison of IAs from Various Studies, Ranked from Lowest to Highest



Conclusion

All recorded bat activity at the site is very low in comparison to other project areas. Small changes in activity levels correspond to seasonal changes but the total levels of activity are so low that it is difficult to differentiate them from random sampling variations.

The level of activity for all species in the first quarter was very low. It included part of the winter period of low activity and the late hibernation period. Bat activity included two bat species designated as California Species of Concern, the pallid bat and the Mexican free-tailed bat. Activity in the second quarter increased as the weather warmed and bats emerged from hibernation and migrations began. Three additional species were identified in the second quarter. They were hoary bat, western small-footed myotis and Yuma myotis. The two Myotis species are designated BLM sensitive species. Activity in the third quarter increased most for parastrelle and to lesser extents for some of the other species. One additional species was recorded in the third quarter, western red bat. In the fourth quarter activity was very low, similar to the first quarter, and no new species were recorded.

The special-status bat species detected at the project site were pallid bat, western small-footed myotis and Yuma myotis (see Table DR56-1)[2]. Pallid bat activity was very low, reflecting a few transits of the site rather than foraging activity, which would have resulted in a much larger number of pallid bat detections. Western small-footed myotis activity was also very low, and was consistent with the emergence from hibernation and migration of a few individuals through the site to more favorable habitats, rather than use of the site for forage. Yuma myotis activity was also detected at low levels. In May and June, it averaged approximately 1 minute every 2 nights, which is not consistent with active foraging over the site. Activity in the third quarter was very low. This species is uncommon in this region except in the mountain ranges bordering the Colorado River Valley. It prefers open forests and woodlands with sources of water over which to feed. Many migrate to higher elevations for the summer. The low level of recorded Yuma myotis activity is consistent with a few transits by migrants, rather than usage of the area for either roosting or foraging. Therefore, because none of the three special status species uses the project site for forage, the potential for impacts to these species is very low and less than significant.

Pallid bat was recorded in one, 1-minute file in the first quarter. In the second quarter, pallid bat activity was recorded in three, 1-minute files in April but no activity was recorded in May or June. In the third quarter, two, 1-minute records recorded activity in July and ten, 1-minute files recorded activity in September. There were no records of this species in the fourth quarter. Because there were few recorded instances of bat activity for the pallid bat, it appears that it does not roost onsite or along the southern portion of the project, and there is a very low likelihood that pallid bat forages onsite. Males are excluded from nursery colonies. Females give birth in late May or June (AGFD, 2002). No recordings of activity were made during this period. The low level of pallid bat activity recorded may reflect a few transits of the site rather than foraging over the site, which would show much more activity.

Western small-footed myotis activity was recorded once in April and only four times in May. It fell to zero events in June. In the third quarter, no activity was recorded in July or August

[2] Data Request 56 appears to suggest that Townsend's big-eared bat was detected during the surveys or was otherwise recorded in the survey area. This species has not been detected during any of the AnaBat™ or other surveys within the site.

and only one, 1-minute file recorded activity in September. There were no records of this species in the fourth quarter. In California, this species is most common in desert scrub and pinyon-juniper forest (Szewczak et al., 1998). This species emerges from hibernation as early as March and is active into autumn (Jones et al., 1983). It prefers open stands in forests and woodlands or brushy habitats. It drinks and feeds near fresh water sources like springs, streams and ponds or stock tanks. The activity level recorded in April and May is consistent with emergence from hibernation and migration of a few individuals through the site to more favorable habitats. Use in the third quarter was nearly none and none were recorded in the fourth quarter. Foraging activity would have produced records of much higher activity levels.

Yuma myotis was first recorded at very low levels in April and at slightly increased levels in May and at a lower level in June. The activity level recorded in April and May is consistent with emergence from hibernation and a small population. Activity in the third quarter was very low in July and August with some increase in September. There were no records of this species in the fourth quarter. However, these low levels of activity are not consistent with foraging over the site. It is known to hibernate but winter habits are poorly known. This species is common and widespread in California and presumed to be a resident species. In the Mojave Desert and Colorado Desert regions it is uncommon except in the mountain ranges bordering the Colorado River Valley. Optimal habitats are open forests and woodlands with sources of water over which to feed, many migrating to higher elevations for the summer (Harris, 1988).

Six of the nine bat species detected were not special-status species. They include parastrelle, Mexican free-tailed bat, big brown bat, western red bat, hoary bat and California myotis.

Parastrelle activity increased in July and declined in August and September, which may reflect the additional activity of newly volant young. This increased level in July is nevertheless a very low activity level. This level of activity may reflect the foraging activity of a very few individuals. Activity levels near features that are attractive to bats are greater than these by orders of magnitude (O'Farrell, 2012).

Mexican free-tailed bat activity was first recorded in February and peaked in April, then declined to approximately one third of the peak level and continued through the second quarter. The third quarter data was marked by higher activity levels in July, August and September. In the fourth quarter, use by the species was most similar to use recorded in spring and summer. This pattern agrees with expected behavior patterns of the species. In California, Mexican free-tailed bat makes local movements to and from hibernacula or short migrations altitudinally. Bats on the east side of the Sierra Nevada migrate north in spring and south in fall (Harris, 2005). This is a highly vagile mammal that is characterized by extremely large population sizes (Russell and McCracken, 2006). Males and females have different seasonal patterns of movement. Migratory females typically move long distances to maternity colonies while many males appear to engage in local movements in the vicinity of their winter roosts (Davis et al., 1962; Villa and Cockrum, 1962). The pattern of activity recorded is consistent with emergence from hibernation and migration of a few individuals through the area followed by a decline to a small level of activity in the second quarter and some increase in the third quarter.

The remaining non-special-status species, big brown bat, western red bat, hoary bat and California myotis, have extremely low activity levels. It is difficult to discern a reliable pattern of activity from random fluctuations in sampling.

The potential for bat strikes of any species against facility structures is extremely low because bats have echolocation abilities that enable them to precisely locate and capture insects in flight. They easily locate and avoid large stationary structures. Unlike wind projects, there are no moving structures associated with the facility that could defeat the echolocation abilities of bats and result in injury. In addition, given their practice of nocturnal activity, there is no potential for heat impacts to bats, given the strictly daytime concentration of solar flux by the heliostat field. These conclusions are supported by the lack of bat mortality reports at solar power tower facilities. Consequently, the low levels of bat activity recorded at the site to date support the conclusion that the project has extremely low potential for significant impacts to bats.

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APPLICATION FOR CERTIFICATION FOR THE HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM

Docket No. 11-AFC-02

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I, Mary Finn, declare that on March 4, 2013, I served and filed copies of the attached Data Response, Set 1B-6, Quarter 4, dated March 4, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/hiddenhills/.

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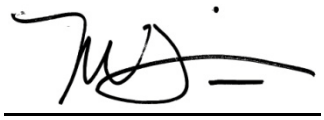

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